(b) what was the outcome of discussions held;

(c) whether issue of Nuclear Non-proliferation Treaty was also discussed in the context of India's stand on the proposed Five Nation Summit and Indo-U.S. bilateral relations and defence cooperation; if so, what was U.S. reaction thereto; and

(d) what was his study about the U.S. perception of the developments in this region vis-a-vis India and Pakistan and the peace and security environment of this sub-continent ?

THE MINISTER OF DEFENCE (SHRI SHARAD PAWAR): (a) and (b) Various security and defence related issues of interest to both the countries were discussed with the US Secretary of Defence. The discussions helped in sharing perceptions on security concerns and promoted mutual understanding.

(c) The subject of the Nuclear Non-Proliferation Treaty was not discussed with the US Secretary of Defence.

(d) The US Government desires stability in the security environment and supports the peaceful resolution of tensions in the region.

उत्पादन संबंधी लक्ष्यों को पूरा करने के लिए कोल इंडिया लि० द्वारा निवेश किया जाना

*160. **श्री राम जेठ मलानी :**
श्रीमती सुषमा स्वराज :

क्या **कोयला** मंत्री यह बताने की कृपा करेंगे कि :

(क) क्या सरकार का ध्यान दिनांक 16 अप्रैल, 1992 को "टाइम्स आफ इंडिया" में प्रकाशित "कोल इंडिया टू इन्वेस्ट रुपिज 2200 करोड़ टू मीट प्रोडक्शन टारगेट" शीर्षक से प्रकाशित समाचार की ओर दिलाया गया है;

(ख) क्या यह सच है कि देश में वर्ष 1992-93 के लिए कोयले के उत्पादन का लक्ष्य 210 मिलियन टन निर्धारित किया गया है;

(ग) क्या कोयले की गुणवत्ता सुधारने का भी कोई लक्ष्य निर्धारित किया गया है;

(घ) यदि हां, तो वर्ष, 1992-93 में उत्तम गुणवत्ता वाले कोयले के उत्पादन के लिए क्या लक्ष्य निर्धारित किया गया है और पिछले वर्षों की तुलना में उपर्युक्त अवधि के दौरान कोयले की मात्रा में कितनी अधिक वृद्धि होगी ?

कोयला मंत्रालय के राज्य मंत्री (श्री पी० ए० संगमा) : (क) जी, हां ।

(ख) योजना आयोग द्वारा वर्ष 1992-93 के लिए देश के कोयला का उत्पादन लक्ष्य 238.20 मिलियन टन निर्धारित किया गया है। कोल इंडिया लि० द्वारा वर्ष 1992-93 के दौरान कोयले का उत्पादन किए जाने के लिए 210 मिलियन टन लक्ष्य निर्धारित किया गया है ।

(ग) और (घ) सरकार, कोककर और अकोककर दोनों तरह के उच्च गुणवत्ता वाले कोयले के उत्पादन को बढ़ाने को सदैव महत्व देती रही है । कोककर कोयले (धुले और सीधे फीड दोनों) के उत्पादन के लिये योजना आयोग द्वारा 1992-93 के लिए 11.04 मिलियन टन उत्पादन का लक्ष्य निर्धारित किया गया है, जबकि 1991-92 में 10.06 मिलियन टन उत्पादन हुआ था; जोकि पिछले वर्ष के उत्पादन की तुलना में लगभग एक मिलियन टन अधिक है । उच्च ग्रेड के अकोककर कोयले के वर्ष 1991-92 में हुए 92 मिलियन टन के उत्पादन की तुलना में वर्ष 1992-93 के दौरान लगभग 96 मिलियन टन उत्पादन किए जाने का अनुमान लगाया गया है, जोकि पिछले वर्ष के उत्पादन की तुलना में लगभग 4 मिलियन टन अधिक है ।

Commercial Exploitation on the Basis of Research of BARC

1113. **SHRI M. VINCENT** : Will the PRIME MINISTER be pleased to state :

(a) whether it is a fact that B.A.R.C., Bombay was involved in the fields of research other than nuclear science;

(b) if so, what are the respective subjects;

(c) whether there is any commercial exploitation based on the result of the research of BARC, Bombay;

(d) if so, what are the details thereof; and

(e) whether BARC has got any scheme for commercial use of any product based on the result and achievement of their research ?

THE MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS (SHRIMATI MARGARET ALVA): (a) and (b) In addition to research in Nuclear Sciences, Bhabha Atomic Research Centre has also developed strong basic research groups in allied areas of Physics, Chemistry, Biology, Engineering and Material Sciences. Indigenous know-how is being continually generated in the high-tech and frontier areas of Science such as Lasers, Accelerators, High Temp Superconductivity, Genetic Engineering, Robotics and Computer Sciences.

(c) and (d) Yes, Sir. From these basic and applied research activities many spin off technologies have been generated which are being shared with other Government Agencies, Public Sector and Private Industries. In addition, the Nuclear and Allied Technologies are continually being transferred to other commercial organisation of Department of Atomic Energy such as Electronics Corporation of India Limited, Nuclear Power Corporation, Nuclear Fuel Complex, Board of Radiation and Isotope Technology and Heavy Water Board.

(e) Bhabha Atomic Research Centre has constituted technology transfer group with experts from various professional fields to identify and evaluate technologies developed within the centre for their commercial exploitation. In the past eight years, about 50 technologies have been transferred to seventy-five private industries. Besides, Bhabha Atomic Research Centre has been providing know-how and consultancy services in various technologies to Government and Public Sector agencies.

Use of Atom for peaceful purposes

1114. SHRI TINDIVANAM G. VENKATRAMAN : Will the PRIME MINISTER be pleased to state :

(a) what are the latest achievements of Government towards "Atom for peace" principle to the society at large; and

(b) whether Government propose to concentrate on the atom experiments to find out an alternative to petrol which will reduce foreign exchange crisis ?

THE MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS (SHRIMATI MARGARET ALVA): (a) Our programmes in Department of Atomic Energy are directed towards peaceful applications of atomic energy. The R&D developed at Bhabha Atomic Research Centre is primarily being used for the production of electricity from Nuclear Power Reactors and for the production and applications of Radioisotopes in Medicine, Industry and Agriculture. Among the seven Research Reactors commissioned till now in Bhabha Atomic Research Centre, the 100 MW Research Reactor Dhruva has been operating well and its high neutron flux as well as other experimental facilities have enhanced our capabilities in isotope production and in R&D in nuclear sciences and engineering. R&D is being continued both for Fast Breeder Reactors and on Uranium-233 Fuelled Reactor Systems with a view to ultimately utilise our vast Thorium-232 reserves. In this regard, the latest Research Reactor Puranima-III was commissioned at Trombay in November 1990 using Uranium-233 as fuel.

Apart from the Nuclear Power Programme, Bhabha Atomic Research Centre has taken an active role in the exploration and promotion of applications of Radioisotopes in Medicine, Industry and Agriculture which can be judged from the fact that one milionth consignment of Radioisotope was completed in July 1991. In